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ABSTRACT

This manual is designed to assist in teaching the necessary work-related behaviors that frequently help individuals with handicaps to enter and remain in the sheltered or competitive work force. It can be used by teachers at the primary, elementary, and secondary levels. Chapter I summarizes the research on associated work skills, sometimes called prevocational skills, and highlights their importance as a critical factor in work adjustment. Chapter II explains the purpose and use of the Associated Teaching Research Work Skills Checklist, which is composed of four sections: work-related behavior, mobility/transportation, self-help/grooming, and social communication. It illustrates procedures for filling out the form and gives suggestions for incorporating the checklist into the individualized education program meeting. Chapter III describes the elements of behavioral theory--the cue, behavior, and consequence--and gives examples of each. The teaching format for associated work skills that are considered "skill acquisition" programs is presented, including data collection techniques, correction procedures, and updating procedures. Chapter IV describes the "Rules of Thumb" for managing inappropriate behavior and the seven principles used in developing formalized treatment programs. Sample programs and data forms are provided to illustrate each step. (YLB)

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ASSOCIATED WORK SKILLS: A MANUAL

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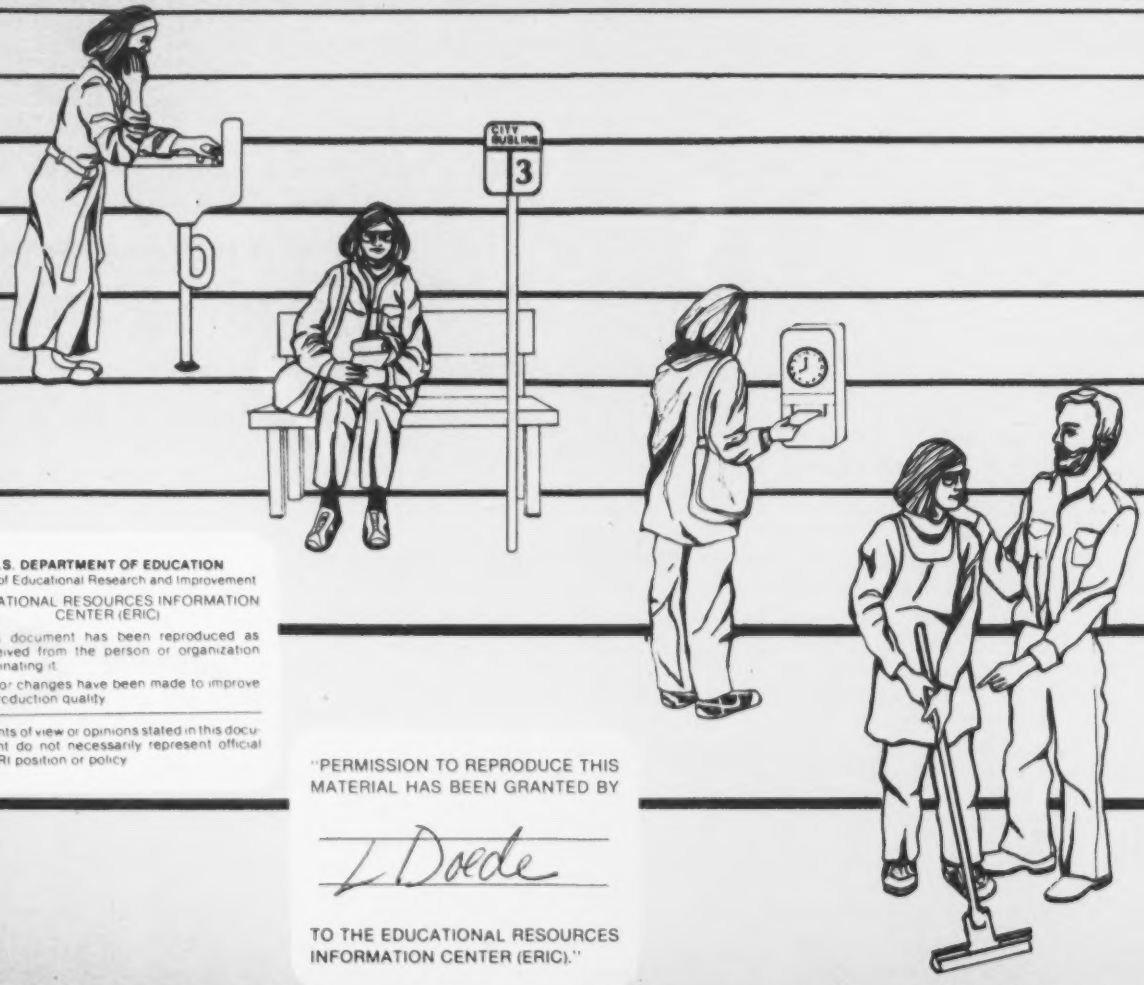

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ASSOCIATED WORK SKILLS:

A MANUAL

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1984

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In the writing of this Manual, the authors have chosen to refer to all students as "he" and all teachers as "she." This is done not from a sexist bias, but to avoid awkward word formations such as "he/she" or "(s)he." It is our hope that the reader will accept this style for the purpose for which it was intended - the reader's comfort.

The preparation of this manual was supported in part by Contract No. 300-80-0644.

Dedication

To Tim Krall, Director of Polk Rehabilitation Enterprises, Independence, Oregon, for his support of vocational training in a lesser restrictive environment for adolescents with multiple sensory impairments and mental retardation.

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CHAPTER I

INTRODUCTION

The Teaching Research Associated Work Skills Manual is designed to assist in teaching the necessary work related behaviors which frequently assist individuals with handicaps to enter and remain in the sheltered or competitive work force. These behaviors have often hitherto been referred to as "prevocational skills" or "social competence behaviors." We have chosen the term "associated work skills" to avoid the confusion of a semantic or cognitive orientation that may be present among some persons in regard to the other terms. Some people envision prevocational skills to be twisting, turning, fitting nuts to bolts, sewing, collating, etc. Others include family living, economic self sufficiency and other independent living skills in the prevocational domain. To exclude those types of orientations we have chosen to call the skills about which we are writing "associated work skills", so that readers will know we are referring only to those skills which are deemed important, even critical, to success in a working environment. They include some self-help skills, many social skills, mobility/transportation skills, time management, and behaviors that are directly related to a working environment, such as, "works faster when told to do so," "checks own work," and "corrects mistakes."

Several studies have highlighted the need for "social competence" training as a critical factor in work adjustment. Greenspan and Shoultz (1981) found three social reasons for the involuntary termination from competitive employment of 30 retarded individuals with mild and moderate retardation: Deficits in (a) temperament, (b) character, and (c) social awareness. Moss (1979) conducted a four year study at the University of Washington in which he applied advanced educational technology in training the job skills necessary to gain competitive employment to adults with moderate and severe retardation. He reported that 51% of his 73 trainees lost their jobs after two months because of (a) lack of performance speed, (b) attitudes towards employers, coworkers, and the work situation, and (c) inadequate ability to follow instructions. Mithaug and Hagmeier (1978) conducted a survey among fifty-six sheltered workshops, developmental centers and activity centers in the northwest to determine the behavioral criteria that supervisors considered important for entry into sheltered employment. A replication in Kansas of this survey was reported in 1978 by Johnson and Mithaug. The authors found four essential prevocational curricula areas considered important for entry: (a) ability to communicate basic needs and follow simple commands, (b) ability to work at a work station with routine work breaks for a period of time up to six hours,

(c) to be properly groomed and have good personal hygiene habits, and (d) to demonstrate appropriate social behavior and refrain from engaging in inappropriate behavior.

Cronis and Justen (1975) found that individuals with handicaps fail on the job not because of their inability to learn job tasks, but because of their inability to adjust to the social demands of the work environment. Pagel and Whitling (1978) reported that the reasons for the failure of community placement of persons with mental retardation and their return to a state hospital was their maladaptive behavior.

Nickelsburg (1973) studied the productivity of workers who were mentally retarded and reported that the difference between sixteen succeeding and fifteen nonsucceeding trainees was the inappropriate behaviors displayed by the nonsucceeding trainees. For example, they would spend more time standing idle, talking, joking, playing with others, laughing on the job, and being away from assigned work stations. Some authors have developed instruments to assess inadequate social behavior that might jeopardize the employment status of a worker (Mithaug, Mar & Stewart, 1978). They report that adults' "trainability, employability or job standing may be severely jeopardized because of maladaptive behaviors such as fighting or hiding exhibited in the employment setting."

We believe that the "associated work skills" which we have identified are the most important focus in vocational programs at the secondary level but they should begin to be taught at a very early age. The above cited research has demonstrated that persons with severe handicaps oftentimes cannot gain access to employment because of their lack of these types of skills and not because they cannot learn the specific work tasks involved on the job. Persons with severe handicaps have been taught extremely sophisticated and complex electronics assembly tasks, and sheltered facilities have secured contract work in this area for quite some time (Bellamy, Horner and Inman, 1979). But even sheltered workshops have refused access to young adults who do not possess basic entry level requirements, such as being toilet trained or the absence of extreme behavior problems. If admitted, they oftentimes do not maintain placements because of the failure to learn other work related behaviors such as working at a job station for a specified amount of time, working faster when told to do so, following instructions or having a good attitude toward supervisors and coworkers.

The staff at Teaching Research concur with all of the above cited research which implies the necessity of teaching these skills during school years so that chances of gaining and maintaining employment will be greatly enhanced in adulthood. Kevin Lynch (1982) capsulates the problem in his statement:

> For better or worse, educational environments do not know their students' future work environments (other than in most general terms) and must, therefore, provide their charges with a battery of social, academic, recreation, and vocational skills that the academic community hopes will have positive transfer value to the "real world."

He believes, and we agree, that (a) salient skills should be taught early and developmentally, (b) training materials and work performance requirements should increasingly approximate actual industrial demands, and (c) training should move from the school to the actual work site as soon as possible.

This manual relies heavily on the work already quoted and intends to provide teachers of students with severe and moderate handicaps the procedures to assess and teach associated work skills so that the students will be better prepared to enter the world of work. The manual can be used by teachers at the primary, elementary and secondary levels.

Summary

This chapter has summarized the research on associated work skills, sometimes called prevocational skills, and has highlighted their importance as a critical factor in work adjustment.

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Pagel, S., & Whitling, C. Readmissions to a state hospital for mentally retarded persons: Reasons for community placement failure. Mental Retardation, 1978, 16, 164-168.

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CHAPTER II

THE ASSOCIATED WORK SKILLS CHECKLIST

The first step in teaching any skill to individuals with handicaps is to assess their strengths and weaknesses in the specific domain in question. The Associated Work Skills Checklist, Figure 1, contains those minimal generic skills deemed necessary for entry into employment, either sheltered or competitive. The Checklist has been designed not only to assess but to develop programs to teach these skills and to evaluate progress on the programs.

There are four main areas assessed on this instrument:

1. Work Related Skills

   These items relate to work speed, independence, safety, etc.

2. Mobility/Transportation

   These items tap the student's ability to use transportation and move about the class/work environment independently.

3. Self-Help/Grooming

   This area pertains to skills in dressing, personal hygiene, eating and grooming.

4. Social/Communication

   This critical area focuses on skills which, if mastered, foster positive attitudes towards supervisors, coworkers and the work situation in general. Items include communication, behavior, compliance and interaction with coworkers and supervisors.

One way in which this checklist differs from others is that it is designed to be used by any teacher of students with handicaps from preschool through high school. Teaching Research advocates that if a well planned comprehensive training program in associated work skills is provided consistently from an early point in school, handicapped individuals will be that much better prepared to enter the world of work at adulthood. In fact, many individuals with severe handicaps who are now denied access to employment because of a lack of these skills, may have been able to procure employment if the skills were taught throughout their school experience.

There are several items on the checklist which apply to small children in school as well as older secondary students. For example, such areas as time management should be taught in the primary grades, as well as personal hygiene and many of the social/communication and mobility behaviors.

Note that no specific time limits are set for certain items, such as #3, "works

ASSOCIATED WORK SKILLS CHECKLIST

Student: _____

Date: _____

WORK RELATED BEHAVIOR	Has Skill	Needs Training	Comments
1. Checks own work			
2. Corrects mistakes			
3. Works alone without disruptions for specified periods with no contact from supervisor/teacher			
4. Works continuously at a job station for specified amount of time			
5. Safety:			
a. uses appropriate safety gear			
b. responds appropriately during fire drill			
c. follows safety procedures specific to classroom/shop			
d. wears safe work clothing			
e. cleans work area			
f. identifies and avoids dangerous areas			
g. responds appropriately to emergency situation (sickness, injury, etc.)			
6. Participates in work environment for specified periods of time			
7. Works in group situation without being distracted			
8. Works faster when asked to do so			
9. Completes work by specified time when told to do so			
10. Time Management:			
a. comes to class/work for designated number of times per week			
b. arrives at class/work on time			
c. recognizes appropriate time to take break or lunch			
d. recognizes appropriate time to change task			
e. returns promptly from:			
1. break			
2. restroom			
3. lunch			
f. uses time clock/clock appropriately			
11. Observes classroom/shop rules			
12. Does not leave work station without permission			

Figure 1. Associated Work Skills Checklist

	Has Skill	Needs Training	Comments
MOBILITY/TRANSPORTATION			
1. Takes appropriate transportation to and from school/work			
2. Locates work station/desk			
3. Locates bathroom			
4. Locates break/lunch area			
5. Locates locker or coat area			
6. Moves about class/work environment independently			
SELF-HELP GROOMING			
Independently:			
1. Dresses appropriately for school/ work			
2. Cleans self before coming to school/ work			
3. Cleans self after using restroom			
4. Cleans self after eating			
5. Shaves regularly			
6. Keeps hair combed			
7. Keeps nails clean			
8. Keeps teeth clean			
9. Uses deodorant			
10. Bathes regularly			
11. Cares for menstrual needs			
12. Cares for toileting needs			
13. Eats lunch and takes break			
14. Washes before eating			
15. Brings lunch/snack independently			
16. Operates vending machine			
17. Uses napkin independently			
18. Displays appropriate table manners			
SOCIAL COMMUNICATION			
1. Communicates basic needs, such as:			
a. thirst			
b. hunger			
c. sickness			
d. toileting needs			

Figure 1. (Continued)

	Has Skill	Needs Training	Comments
2. Does not engage in:			
a. self-stimulatory or self-abusive behavior			
b. aggressive/destructive behavior			
c. self-indulgent (attention getting) behavior			
3. Engages in relevant, appropriate conversation			
4. Responds calmly to emotional outbursts of others			
5. Talks about personal problems at appropriate times			
6. Refrains from exhibiting inappropriate emotions at school/work			
7. Refrains from bringing inappropriate items to school/work			
8. Refrains from tampering with or stealing other's property			
9. Responds appropriate to changes in supervisors/teachers			
10. Interacts with coworkers/students at appropriate times			
11. Responds appropriately to social contacts such as "hello" or "good morning"			
12. Initiates greetings appropriately			
13. Ignores inappropriate behaviors/ comments of coworkers/students			
14. Refrains from inappropriate sexual activity at school/work			
15. Laughs, jokes and teases at appropriate times			
16. Responds appropriately to strangers			
17. Approaches supervisor/teacher appropriately when:			
a. needs more work			
b. makes a mistake he/she cannot correct			
c. tools or materials are defective			
d. does not understand task			
e. task is finished			
f. disruption has occurred			
g. sick			
18. Complies with supervisor's/teacher's requests in specified period of time			
19. Responds appropriately to correctional feedback from supervisor/teacher			
20. Responds appropriately to changes in routine			
21. Follows instructions			

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Figure 1. (Continued)

alone without disruptions for specified periods of time." The reason this has been left open is that the time period would be quite different for a child in elementary school than it would be for someone in high school. The terminal objective for this item for an elementary school child might be 15 minutes, while for a secondary student it may be 60 minutes. The teacher should insert the amount of time he/she feels would be reasonable for the student, according to his age and handicapping condition. For example, time to complete certain tasks for a student with severe cerebral palsy might be different than for a student who has no physical limitations. The Teaching Research staff suggests that the teacher should specify the amount of time on the assessment instrument as well as on programs she writes for the student.

Most preschool and elementary age students are involved in training programs that target a wide scope of curricular areas (self-help, motor, language, and cognitive). These skills should be taught to the handicapped child at an early age. Certainly the teaching of communication skills should be the primary focus of any preschool curriculum. Instruction in proper grooming, good personal hygiene habits and appropriate social behavior commences in preschool and continues throughout the child's school years. In addition, attention to task and independent performance of tasks should be a continuous focus of a child's educational program.

By the time the student is 13 or 14 years old, the focus in education should turn to job preparation; if the 13 year old is deficient in basic communication, self-help and social skills, some decisions will have to be made concerning priorities for skill acquisition programs. In other words, the teacher is faced with this question: Given the vast array of possible self-help and social skills this student needs to learn, which are the most essential associated work skills?

It is assumed that at the secondary level, these associated work skills will be taught in the context of a vocational training program. Procedures for setting up such a program are explained in The Teaching Research Secondary Data Based Classroom (staff of the Teaching Research Infant and Child Center, 1984).

How To Use The Associated Work Skills Checklist

The Associated Work Skills Checklist should be administered by a teacher or someone who is familiar with the student's behavior in the classroom or work situation. The teacher checks the items which the student has already learned and those in which the student needs training. Figure 2 is an illustration of page 2 of the checklist filled out by a primary teacher. She would probably not be teaching such skills as "shaves

	Has Skill	Needs Training	Comments
MOBILITY/TRANSPORTATION			
1. Takes appropriate transportation to and from school/work		✓	
2. Locates work station/desk	✓		
3. Locates bathroom	✓		
4. Locates break/lunch area	✓		
5. Locates locker or coat area	✓		
6. Moves about class/work environment independently		✓	
SELF-HELP/GROOMING			
Independently:			
1. Dresses appropriately for school/ work		✓	
2. Cleans self before coming to school/ work		✓	
3. Cleans self after using restroom		✓	
4. Cleans self after eating		✓	
5. Shaves regularly	NA		
6. Keeps hair combed		✓	
7. Keeps nails clean		✓	
8. Keeps teeth clean	✓		
9. Uses deodorant	NA		
10. Bathes regularly	✓		
11. Cares for menstrual needs	NA		
12. Cares for toileting needs	✓		
13. Eats lunch and takes break	✓		
14. Washes before eating		✓	
15. Brings lunch/snack independently	✓		
16. Operates vending machine		✓	
17. Uses napkin independently	✓		
18. Displays appropriate table manners	✓		
SOCIAL COMMUNICATION			
1. Communicates basic needs, such as:			
a. thirst	✓		
b. hunger	✓		
c. sickness	✓		
d. toileting needs	✓		

Figure 2. Example of Checklist Completed for Primary Age Student

regularly," "uses deodorant" or "cares for menstrual needs." On the other hand, if a secondary teacher or vocational trainer is filling out the checklist, she would probably check off all items. Most of the items are requirements for competitive and sheltered employment unless a local worksite does not require some of the skills. For example, for some low level students who cannot be trained to ride the bus and will be picked up and taken to and from work, "takes appropriate transportation to and from worksite" would not be assessed. For all items which are not applicable to a student, an N/A is written in the first column. Figure 3 is an example of the checklist used with a secondary student who is preparing for competitive employment. Note that only one item has been marked "NA."

The skills which need training are then tentatively prioritized as to which can feasibly be taught during that school year. This process should be completed prior to the IEP meeting.

At the IEP meeting, the checklist is explained to the parents. Prioritized skills, agreed upon by the teacher and parent, are written into the IEP. At the secondary level, the vocational training program is also explained to the parents and written consent is obtained for their son or daughter to participate. All of the associated work skills can be taught while a student is on a work placement. (See Staff of the Teaching Research Infant and Child Center, 1984, for procedures on how to set up and operate a vocational training program at the secondary level.)

There are a number of commercially available curricula that provide task analyzed programs for teaching the communication and self-help programming areas of the associated work skills. Those used in the Teaching Research demonstration classrooms are:

1. Makohon, L., Fredericks, H. & the Staff of the Teaching Research Infant and Child Center. The Teaching Research curriculum for moderately and severely handicapped: Language. Monmouth, Oregon: Teaching Research Publications, 1980.

2. Fredericks, H. & the Staff of the Teaching Research Infant and Child Center The Teaching Research curriculum for moderately and severely handicapped: Self-Help and cognitive. Springfield, Ill.: Charles C. Thomas, 1980.

3. Fredericks, H. & the Staff of the Teaching Research Infant and Child Center The Teaching Research curriculum for moderately and severely handicapped: Gross and fine motor. Springfield, Ill.: Charles C. Thomas, 1980.

4. Fredericks, H., Makohon, L., Bunse, C., Heyer, M., Buckley, J., Alrick, G., & Samples, B. The Teaching Research curriculum for handicapped adolescents and adults: Personal hygiene. Monmouth, Oregon: Teaching Research Publications, 1980.

ASSOCIATED WORK SKILLS CHECKLIST

Student: JOHN JONES **Age:** 14

Date: 1/7/83

WORK RELATED BEHAVIOR	Has Skill	Needs Training	Comments
1. Checks own work	✓		
2. Corrects mistakes		✓	
3. Works alone without disruptions for specified periods with no contact from supervisor/teacher	✓		
4. Works continuously at a job station for specified amount of time	✓		
5. Safety:			
a. uses appropriate safety gear		✓	
b. responds appropriately during fire drill	✓		
c. follows safety procedures specific to classroom/shop		✓	
d. wears safe work clothing		✓	
e. cleans work area	✓		
f. identifies and avoids dangerous areas		✓	
g. responds appropriately to emergency situation (sickness, injury, etc.)	✓		
6. Participates in work environment for specified periods of time	✓		
7. Works in group situation without being distracted	✓		
8. Works faster when asked to do so		✓	
9. Completes work by specified time when told to do so		✓	
10. Time Management:			
a. comes to class/work for designated number of times per week		✓	
b. arrives at class/work on time		✓	
c. recognizes appropriate time to take break or lunch	✓		
d. recognizes appropriate time to change task	✓		
e. returns promptly from:			
1. break	✓		
2. restroom	✓		
3. lunch	✓		
f. uses time clock/clock appropriately		✓	
11. Observes classroom/shop rules		✓	
12. Does not leave work station without permission		✓	

Figure 3. Example of Checklist Completed for Secondary Age Student

	Has Skill	Needs Training	Comments
MOBILITY/TRANSPORTATION			
1. Takes appropriate transportation to and from school/work		✓	
2. Locates work station/desk	✓		
3. Locates bathroom	✓		
4. Locates break/lunch area	✓		
5. Locates locker or coat area	✓		
6. Moves about class/work environment independently	✓		
SELF-HELP GROOMING			
Independently:			
1. Dresses appropriately for school/ work		✓	
2. Cleans self before coming to school/ work		✓	
3. Cleans self after using restroom		✓	
4. Cleans self after eating		✓	
5. Shaves regularly		✓	
6. Keeps hair combed		✓	
7. Keeps nails clean		✓	
8. Keeps teeth clean		✓	
9. Uses deodorant		✓	
10. Bathes regularly		✓	
11. Cares for menstrual needs	NA		
12. Cares for toileting needs		✓	
13. Eats lunch and takes break	✓		
14. Washes before eating		✓	
15. Brings lunch/snack independently	✓		
16. Operates vending machine		✓	
17. Uses napkin independently		✓	
18. Displays appropriate table manners	✓		
SOCIAL COMMUNICATION			
1. Communicates basic needs, such as:			
a. thirst	✓		
b. hunger	✓		
c. sickness	✓		
d. toileting needs	✓		

Figure 3. (Continued)

	Has Skill	Needs Training	Comments
2. Does not engage in:			
a. self-stimulatory or self-abusive behavior	✓		
b. aggressive/destructive behavior	✓		
c. self-indulgent (attention getting) behavior	✓		
3. Engages in relevant, appropriate conversation		✓	
4. Responds calmly to emotional outbursts of others	✓		
5. Talks about personal problems at appropriate times		✓	
6. Refrains from exhibiting inappropriate emotions at school/work	✓		
7. Refrains from bringing inappropriate items to school/work		✓	
8. Refrains from tampering with or stealing other's property		✓	
9. Responds appropriate to changes in supervisors/teachers	✓		
10. Interacts with coworkers/students at appropriate times		✓	
11. Responds appropriately to social contacts such as "hello" or "good morning"	✓		
12. Initiates greetings appropriately	✓		
13. Ignores inappropriate behaviors/ comments of coworkers/students		✓	
14. Refrains from inappropriate sexual activity at school/work	✓		
15. Laughs, jokes and teases at appropriate times	✓		
16. Responds appropriately to strangers		✓	
17. Approaches supervisor/teacher appropriately when:			
a. needs more work	✓		
b. makes a mistake he/she cannot correct	✓		
c. tools or materials are defective		✓	
d. does not understand task		✓	
e. task is finished	✓		
f. disruption has occurred		✓	
g. sick	✓		
18. Complies with supervisor's/teacher's requests in specified period of time		✓	
19. Responds appropriately to correctional feedback from supervisor/teacher		✓	
20. Responds appropriately to changes in routine	✓		
21. Follows instructions		✓	

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Figure 3. (Continued)

5. Fredericks, H., Makohon, L., Bunse, C., Heyer, M., Buckley, J., & Samples, B. The Teaching Research curriculum for handicapped adolescents and adults: Dressing and clothing care. Monmouth, Oregon: Teaching Research Publications, 1982.

Summary

This section explains the purpose and use of the Teaching Research Associated Work Skills Checklist. The four sections of the checklist are: 1) Work Related Behavior, 2) Mobility/Transportation, 3) Self-Help/Grooming and 4) Social Communication. Procedures for filling out the form by a primary and secondary teacher were illustrated. Suggestions were given for incorporating the Checklist into the IEP meeting.

References

Staff of the Teaching Research Infant and Child Center. The Teaching Research secondary data based classroom. Monmouth, Oregon: Teaching Research Publications, 1984.

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CHAPTER III

HOW TO TEACH ASSOCIATED WORK SKILLS

There are two types of associated work skills - those which involve the acquisition of skills, and those which involve improving the performance of a behavior or eliminating an inappropriate behavior. For example, a student who does know how to brush his teeth learns "how to" through a skill acquisition program. If, after acquiring the skills, the student does not brush his teeth at appropriate times, the problem enters the behavior management domain, and a program is needed to increase the occurrence of the behavior.

Both types of programs make use of student performance data for evaluating the effectiveness of the teaching program. Skill acquisition programming is described in this chapter while behavior management programming is described in detail in the next chapter.

The teaching strategies described in this manual are based on behavioral learning theory. A review of the elements of this theory may serve to provide a foundation for better understanding of the strategies outlined in this manual.

Elements of Behavioral Theory

Three elements must be considered in planning a learning environment: cues, behaviors and consequences. These are defined as:

Cue: A signal, request or condition that elicits or can be made to elicit a behavior.

Behavior: Any observable or measurable action.

Consequence: Feedback presented after the occurrence of a behavior which either increases, decreases or maintains the behavior.

The Cue

Since the cue is anything that elicits a behavior, it can take many forms. A cue can be an instructional material, a verbal or signed request, a gesture, or a particular time of day, to name a few. Cues can range in intensity from very subtle to very explicit. The following types of cues as used in the teaching strategies described herein are arranged in order of intensity, beginning with the most subtle.

Type of Cue	Definition	Examples
Environmental Cue	It is any cue that occurs naturally in the environment.	Rain is a cue to carry an umbrella. The 12:00 whistle signals "lunch time."
Directive Cue	Any verbal/signed cue that tells the student a specific solution to his problem.	"It's raining so you need your umbrella." "When the whistle blows, go to lunch."
Model Cue	Any time the behavior is modeled or demonstrated for the student without actually doing it for him.	The staff demonstrates getting and opening the umbrella or the student is shown how to go to the lunch area.
Physical Assistance Cue	This cue is the most explicit and provides the most assistance.	The instructor physically guides the student to get and open his umbrella or go to the lunch area.

All behaviors that are learned are preceded by a cue. The eventual goal of skill acquisition training is to have the student respond to the most subtle and natural cues. To reach this goal, however, it is often necessary to provide training using other more explicit cues. The rule of thumb in skill training is to provide the least amount of direction or assistance that is necessary for the student to complete the desired task. If physical assistance, modeling, or directive cues are required to elicit the desired behavior, these will have to be faded before mastery of the skill is considered complete and under the control of environmental cues.

The following are some guidelines for effective cue presentation during skill acquisition training.

1. Cues should generally be presented in order of their intensity beginning with the least amount of assistance. If the student does not respond to the environmental cue, give a directive cue; if there is no response, provide physical assistance.

2. The teacher should be certain the student is attending before providing a cue. It may be necessary to begin by cuing the student to "pay attention."

3. The teacher should be certain that the verbal/signed cue is understandable and appropriate to the receptive language ability of the student. It should be delivered in such a way as to accommodate any sensory handicaps the student might have.

4. For each training trial, each type of cue should be presented one time only. The repetition of cues only teaches the student not to respond. If the student knows that the cue will be repeated, he also knows he can ignore it since it will be delivered two or three times.

Behavior

The second element of Learning Theory is behavior - any measurable or observable action. Some behavior is simple and basic such as picking up an object from a table; others are more complex such as performing a grooming routine. Deficiencies and excesses in behavior alert staff to the need for training whether it be skill acquisition or socialization/behavior management training.

All items on the checklist are behaviors, but they are taught in two different ways. For example, #8 under Work Related Behavior, "works faster when asked to do so," is a behavior as well as #16 under Self-Help, Grooming, "operates a vending machine." The first behavior would be treated as a behavior management problem. The second would be taught using a skill acquisition program.

Consequences

Consequences are the final element in the behavior learning sequence. Consequences are feedback which immediately follow a behavior and increase or decrease the probability of future occurrence of that behavior. Consequences that increase the probability of the occurrence of a behavior are called reinforcers. In any training program, the use of positive reinforcers should be most common. There are several types of consequences that decrease the likelihood that a behavior will reoccur. These are punishers. Although not generally done so, we have also included time out, response cost and overcorrection under the rubric, punishment. These are generally perceived by the recipient as punishment and therefore are logically placed under that heading. A description of each type of consequence follows:

Positive Reinforcers

Just as there is a hierarchy of cues, there is also a range of positive consequences of different intensities:

Secondary Reinforcers are learned and include three main types:

a. Instrinsic reinforcers are the inner reinforcement a person feels for having successfully completed a task. Self reinforcement is the highest order of reinforcer.

b. Social reinforcers communicate the approval of others for the behavior performed. Smiles, praise and physical contact are examples.

c. Tangible reinforcers are objects which are given for an appropriate or desired behavior. Tangibles such as tokens are usually "cashed in" for other tangible, social or primary reinforcers.

Primary reinforcers are those that satisfy biological needs. They are usually things to eat or drink.

Punishers

A punisher is a consequence that decreases the likelihood that the behavior will be repeated through the application of some negative or aversive consequence. Punishers must also be individualized and range from mild to severe. The type and severity of the behavior exhibited should determine the appropriate intensity of the punisher. As a rule of thumb, mild punishers should be used first. For skill acquisition programs, the mild social punisher, ("Wrong," "Try again," etc.) is generally sufficient to decrease incorrect responses. If this is not effective, more severe punishers can be used. Such punishers as loss of privileges are usually effective. More severe punishers are generally used to decrease dangerous or aberrant behavior.

a. Time Out. A consequence frequently used to decrease inappropriate behaviors is called time out. Time out is a temporary removal of all opportunities for the student to receive reinforcement. Time out conditions vary in intensity from merely ignoring a worker engaged in an inappropriate behavior to removing a worker to an environment which offers no opportunity for reinforcement.

b. Response Cost. Response cost is a consequence that has been used in both skill acquisition and behavior management programs. Response cost refers to the withdrawal or taking away of reinforcers that have already been earned. Response cost is used with tangible reinforcers such as tokens or points since these are "saved" over a period of time.

c. Overcorrection. Overcorrection is a procedure generally used to decrease inappropriate behaviors. There are two types: Restitution and positive practice. Restitution is a mild form of overcorrection and requires the person who behaved inappropriately to apologize or correct the disruption (pick up the chair that was overturned). Positive practice involves intensive, repeated practice of a positive behavior that is related to but incompatible with the inappropriate behavior. For example, if a student threw a chair, a positive practice consequence would require the student to straighten all the chairs in the room, perhaps repeatedly.

Reinforcers and punishers are highly individualized. The selection of consequences must be based on some knowledge of the likes and dislikes of the student. A pat on the back may be a reinforcer for one person while serving as a punisher to another.

The following are some general guidelines for the most effective use of consequences:

1. The consequence (reinforcer or punisher) should be delivered immediately following the targeted behavior. A delay could mean the student is unable to relate the consequence to the behavior. Another potential result of a delayed consequence is that it may inadvertently reinforce or punish a behavior that occurs during the delay.

2. The consequence must have the desired effect. Consequences should be chosen based upon observations of the student's likes and dislikes. If a consequence strengthens the preceding behavior, it is a reinforcer. If the consequence decreases the behavior, it is punishing to the person.

3. Consequences should be readily available and delivered at full value. If a student has agreed to work for a specific goal, the staff should be certain that this reward is delivered. Taking the student out for a coke instead of a promised movie teaches him that agreements are not to be taken seriously.

4. Reinforcers delivered while a student is attending to a task should not take his attention from the task.

5. If a punisher is used to decrease a problem behavior, a reinforcer must be used to strengthen a skill that will replace the inappropriate response.

6. Once a student is consistently demonstrating the desired behavior, artificial consequences must be systematically faded so that the behavior is maintained by natural or environmental consequences.

Teaching Formats

Skill Acquisition

Most associated work skills which are not of a behavior management nature, are actually chains of smaller behaviors. Each of these small enabling behaviors needs to be performed correctly by the student in order to perform the entire skill. Breaking a skill into an ordered sequence of small behaviors is called task analysis. The concept of task analysis is based on the premise that a complex skill can be learned best when it is broken down into simple, smaller, individually taught behaviors.

Teaching Research recommends using a Total Task format for most behaviors, which means that all the behaviors of a particular skill are taught sequentially during the same teaching trial. One step is not trained to criterion before the next step is presented. Instead, the trainee learns each step within the context of the whole operant chain (Bellamy, Horner and Inman, 1979). For example, see Figure 4 for a total task analysis for operating a vending machine.

The task is modeled for the student from beginning to end. This can be done twice. Then a baseline is taken by asking the student to perform the task himself. For each step that the student performs correctly, an X is marked in the appropriate box. For each step requiring assistance, a O is marked in the box. Assistance must be given during the baseline, (the first two trials) so that subsequent steps in the chain can be attempted. Corrections given to the student follow the following format:

TOTAL TASK DATA SHEET

Program: POP MACHINE **Name:** JOHN DOE

Terminal Objective:

1.	Puts money in slot	X	X	X	X	X	X	X	X	X	X	X	X	X					
2.	Puts hand on selection panel	O	O	O	X	X	X	X	X	X	X	X	X	X					
3.	Presses button for selection	O	O	O	X	X	X	X	X	X	X	X	X	X					
4.	Takes pop from machine	X	X	X	X	X	X	X	X	X	X	X	X	X					
5.	Locates bottle opener	X	X	X	X	X	X	X	X	X	X	X	X	X					
6.	Puts bottle in slot	X	X	X	X	X	X	X	X	X	X	X	X	X					
7.	Lifts bottle to top of slot	X	O	O	X	O	X	X	X	X	X	X	X	X					
8.	Catches cap in opener	O	O	O	O	O	X	X	X	X	X	X	X	X					
9.	Open bottle	X	X	O	X	X	X	X	X	X	X	X	X	X					
10.	Checks change slot	O	O	O	X	O	X	O	X	X	X	X	X	X					
11.	Return empty bottle	X	X	X	X	X	X	X	X	X	X	X	X	X					
12.	Retain total task Base -	Baseline																	
13.	Line average - 59%																		
14.	No need to branch																		
15.																			
16.																			
17.																			
18.																			
19.																			
20.																			
21.																			
22.																			
23.																			
24.																			
	% Independence: # X's or I's / Total # Steps	64	55	45	91	73	100	91	100	100	100	100	100	100					
	Dates:	11/22		11/24		12/1		12/3		12/7	12/8	12/11	12/11	12/17					
	Trainer:																		

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Figure 4. Total Task Analysis for Operating Vending Machine

Negative feedback - this tells the student he has made an error. The trainer can say, "Wait," "Hold it," or something similar to stop the action of the student. For very low level or sensory impaired students, the trainer may have to stop the action by grasping the materials, or the student's hands.

Then, add a directive verbal-gestural cue - The trainer may point to the appropriate place on the teaching material and give a verbal cue at the same time. For example, on a pop machine, the trainer may point to the coin slot and say, "the quarter goes in here." If the student performs correctly at this point, he receives mild social praise and resumes his work.

If the student does not respond after the directive verbal-gestural cue, the trainer physically assists the student through the step. All assistance must be faded as teaching continues until the student can perform the step independently. For some students who are severely impaired, the physical assistance may be combined with the directive verbal-gestural cue.

Two baseline trials are conducted and the average percentage of steps completed independently is computed. If the average percentage of steps completed independently equals or exceeds 33%, the total task teaching format is continued (see Figure 4). If the average is less than 33%, two options are available:

1. Mini-chains: A natural break is found in the chain of behaviors. Only those steps preceding the break are taught. See Figure 5 for an example of a mini-chain for "uses pop machine." When criteria is met on these steps, another baseline of the total task is conducted to determine if 33% of the steps are independent. If so, teach the total task. If not, find the next logical break in the chain, and teach only those steps preceding that natural break. The criterion for mastery is decided upon by the teacher/trainer.

2. Trial by trial teaching: If the student is unable to complete any of the steps during baseline, it may be necessary to use a trial by trial format. This means that one step of the chain is taught to criterion and then the next step added. Periodic probes of the total task should be taken to determine if a mini-chain or total task format is feasible.

Sometimes a particular step is especially difficult for a student. If so, a modification is required, which may mean breaking the step into smaller steps, using color cues, or changing the consequence for that step.

The teacher can also try a "massed trials" approach on that step. This means removing the step from the chain and having the student practice that step 5 to 10 times consecutively before the total task teaching trial each day. See Figure 6 for a massed trials data sheet. This example illustrates that the student was having particular difficulties with step #9 on a Time Clock program. A massed practice session was begun on 12/11/81. The student met criterion on this step on 1/7/82. Total task teaching is continued each day, following the massed trials session. Of course, if the student meets criterion on the total task, the massed trials are discontinued.

TOTAL TASK DATA SHEET

Program: USES POP MACHINE **Name:** JOHN DOE

Terminal Objective:

1.	Puts money in slot (2 quarters)	O	O	X	X	X	X																		
2.	Opens door of machine	X	X	X	X	X	X																		
3.	Selects a pop	X	X	X	X	X	X																		
4.	Pulls pop from machine	X	X	X	X	X	X																		
5.	Checks change slot	O	X	O	O	X	X																		
6.	Locates bottle opener	O	O	-	-	-	-																		
7.	Puts bottle in opener	O	O	-	-	-	-																		
8.	Lifts bottle to top of opener	O	O	-	-	-	-																		
9.	Catches cap in opener	O	O	-	-	-	-																		
10.	Opens bottle	O	O	-	-	-	-																		
11.	Returns empty bottle to box	O	O	-	-	-	-																		
12.		Baseline																							
13.	Baseline average equals 31% -																								
14.	Use mini-chain of first 5 steps																								
15.																									
16.																									
17.																									
18.																									
19.																									
20.																									
21.																									
22.																									
23.																									
24.		3/11	4/4	4/5	4/5	4/5	5/5																		
	% Independence: # X's or I's / Total # Steps	27	36	80	80	100	100																		
	Dates:	11/2		11/14		11/15																			
	Trainer:																								

Teach steps 1-5 only.

BL $\bar{X}$ = 31%

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Figure 5. Example of a Mini-Chain for "uses pop machine"

Teaching Research Infant and Child Center Raw Data Sheet

Name: JOHN DOE Program: TIME CLOCK

X = Correct
O = Incorrect

Reinforcer	Phase	Step	Trials										Comments	Date
Initially 1-1		9	X	X	X	X	O	X	X	X	X	X	12-11-81 Change criterion	
1-1		9	X	X	X	O	X						12-14-81	
1-1		9	X	X	X	X	X						12-15-81	
1-1		9	O	O	X	X	X						12-16-81	
1-1		9	O	O	X	O	X						12-17-81	
1-1		9	X	X	X	X	X						1-04-82	
1-1		9	X	X	X	X	X						1-07-82	
													Criterion	
													5 consecutive trials on	
													2 consecutive days	

Figure 6. Massed Trials Data Sheet

Figure 7 is an illustration of a cover sheet for the Pop Machine program. This cover sheet is especially useful to the trainer or volunteer because it conveys all of the information that is necessary to effectively conduct the program. It is recommended that every data sheet for an associated work skill that is considered a "skill acquisition program" be accompanied by a program cover sheet.

Proceeding vertically down the left hand side of the form, the first section provides space for listing any materials that are necessary to conduct the program. It is essential that all materials are available before the trainer begins to conduct the program.

The second section is for recording the Instructional Cue, or what to say to the student at the beginning of the program.

The third section relates the reinforcement schedule. It is important to go to a variable schedule of reinforcement as soon as possible with total task programs. If the student becomes accustomed to being reinforced for every step of the chain, he will wait for this reinforcement, slowing down the process of moving through the chain.

The fourth section on the left hand side of the program cover sheet presents the correction procedure to be used with this particular student. The trainer would circle the level of assistance to be used with the student. In this example, all levels are used.

The right side of the page starts off with the non-verbal cues or physical set up of the environment. In this example, the non-verbal cue is coworkers starting to move toward the pop machine during a work break.

The second section presents the criterion for advancement or program modification. Criterion for acquisition of a program means that the student completes the chain a specified number of times with no assistance.

The last section contains any teaching notes that may prove helpful in conducting the program.

Response to the Data Collected

The most important aspect of collecting data is what the teacher does with it. A basic rule for data collection for the teacher is to collect only as much data as is necessary to make adequate decisions for the student's instructional program. Data tell the teacher to alter or not to alter the student's program. This ability to respond to the data and to modify programs accordingly is the essence of individualized programming.

The purpose of a continuous data system such as described herein is to give the

PROGRAM COVER SHEET

Student: John Doe Program: Pop Machine

Terminal Objective: Student will operate pop machine at 100% accuracy for four consecutive trials.

Materials:

money - change
pop machine

Non-verbal Cues (Set-up):

Co-workers start to move toward pop machine.

Instructional Cue:

Sign "break time" and "pop".

Criterion:

Advance: 4 consecutive correct trials at 100% accuracy - 2 days

Modification: 2 consecutive days - no progress

Reinforcement Procedure:

Variable R+

Strong R+ for steps that are starred.

Correction:

(NFH) - "Wait, Hold it, Stop"

Intervene as soon as possible if he is about to make a mistake by stopping his action.

(D) - Verbal/Postural prompt

(P) - Physically assist

Teaching Notes:

Make sure you have a nickel and quarter for student.

Sign "breaktime" to student.

Have student sign for "money".

Figure 7. Program Cover Sheet for Pop Machine Program

teacher immediate (daily) feedback so that she can modify her teaching in a timely fashion so that the student can learn at an optimum rate. Data are examined daily, usually after instruction hours, to determine if a change in a program is necessary. This process of examination of data, decisions about change, and indicating the program direction for the next day is called updating. If no progess is seen in two days, it is recommended that the program be modified.

There are four possible decisions which a teacher may make about a program during this udpating process:

1. Maintain the program as is.
2. Change the reinforcer being used with the program.
3. Modify the program by adding additional steps in the program (branching) by changing the materials, verbal or non-verbal cues, or by increasing the criterion.
4. Use a "massed trials" format, if necessary.

Modifications are written directly onto the data sheet. Figure 8 illustrates this procedure. The first two days after baseline, the student showed no progress (11/4 and 11/9). A modification was added on 11/13 and removed on 11/23. The student was performing at 100% independence on 11/23 and 11/25.

Summary

This chapter briefly describes the elements of behavioral theory - the cue, behavior and consequence - giving examples of each. The teaching format for associated work skills which are considered "skill acquisition" programs was presented, including data collection techniques, correction procedures, and updating procedures.

TOTAL TASK DATA SHEET

Program: TIME CLOCK **Name:** JOHN DOE

Terminal Objective:

1.	Student goes to card rack	O	X	X	O	X	X	O	X	X	X	X	X	X	X	X				
2.	Student takes time card from rack	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
3.	Student goes to time clock	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
4.	Student turns card so brad is on top	X	X	X	X	X	X	O	X	X	X	X	X	X	X	X				
5.	Student turns card so brad head is toward him	X	X	X	X	O	X	O	X	X	X	X	X	X	X	X				
6.	Student locates time card slot	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
7.	Student inserts card in slot	O	O	X	X	X	X	X	X	X	X	X	X	X	X	X				
8.	Student uses both hands pushing card down	O	O	O	X	X	X	X	X	X	X	X	X	X	X	X				
9.	Student pushes until card punches	O	O	NA	O	X	X	O	O	O	X	O	O	X	X	X				
10.	Student returns card to rack	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
11.		Baseline																		
12.		$\bar{X}$=73%																		
13.																				
14.										Branch - gesture "all the way down" before student performs step 9.									
15.																				
16.																				
17.																				
18.																				
19.																Remove branch.				
20.																				
21.																				
22.																				
23.																				
24.																				
	% Independence: # X's or I's / Total # Steps	60	70	90	80	90	100	60	90	90	100	90	90	100	100	100				
	Dates:	10/26			11/4		11/9		11/13		11/10		11/23		11/25					
		$\bar{X}$=73%			85%		80%		90%		95%		95%		100%					

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Figure 8. Examples of Updating

References

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CHAPTER IV

SOCIALIZATION AND BEHAVIOR MANAGEMENT

Many of the skills on the Associated Work Skills Checklist are behavioral and social in nature. Appropriate social skills are critical for a successful work experience. Included are abilities to interact appropriately with others in the work environment - both peers and supervisors - and to refrain from behaviors that are considered to be inappropriate. The Checklist should not be considered exhaustive. Other behaviors can be added depending on the unique work situation.

The building of appropriate social skills or the remediation of inappropriate behaviors is necessary when deficits in social behavior are noted in the student. For example, the student fails to greet others; he flirts with coworkers; sulks when corrected by the boss; laughs too loudly and at the wrong time; loses temper easily; is seen rubbing his genital area for long periods during work time. Programming in social skills is different than programming in skill acquisition. In the socialization area, a student is generally assumed to have appropriate social behavior until he exhibits some behavior which is not considered acceptable or until he fails to respond or initiate a social behavior that is considered necessary. Teachers and trainers should be sensitive to observe these deficits in secondary age students. Figure 1 provides a list against which each student's behavior can be checked. The following sections describe general "rules of thumb" for managing inappropriate behavior, and specific techniques for programming for behavior change. The following is not meant to be an exhaustive treatise on behavior management. It is purported to be, however, a system which has been used repeatedly with success in educational environments.

Rules of Thumb

Rules of Thumb were developed by Teaching Research to be used in any educational, residential or vocational environment where children or adults with handicaps are being taught or trained. They are designed to provide for the teacher, parent or trainer a set of ready responses for the inappropriate behaviors of the student or trainee. By following these rules, we and many others have achieved a high success rate in remediating inappropriate behaviors over the years. Therefore, they have become an integral part of all of our training environments. They have frequently been found sufficient so that formal behavior programs do not have to be initiated. The term trainer designates the person or persons who are working to remediate the behavior.

This term includes parents, professionals and staff who interact with the trainee. The term "trainee" is used to describe the person exhibiting the behavior to be treated.

We recommend categorizing inappropriate behaviors in order to increase the consistency in dealing with the behaviors. According to the rules of thumb all inappropriate behaviors can be classified as one of four types. These are: 1) self indulgent behavior, 2) noncompliance, 3) aggression, and 4) self-stimulatory or self-destructive behavior. Each type requires a different response from the trainer.

1. **Self-Indulgent Behaviors** - The first type are those that are labeled self-indulgent behaviors or "I am doing my own thing." Belonging to this group include such behaviors as pouting, crying, temper tantrums, withdrawing into the corner and refusing to communicate, whimpering, screaming and shouting profanities. This group also includes the trainee who, seated at a table, bangs his feet on the floor, pounds on the table, makes strange noises with his mouth, or bangs objects together non-destructively to hear the noise they make.

The rule of thumb for the trainer faced with these types of behaviors is to ignore them. The reason for this rule becomes clear when it is understood why the inappropriate behavior is occurring. Two explanations are offered. The trainee may have been unable to obtain something that he wants to possess or do. By throwing a tantrum, crying, pouting, or withdrawing, he hopes to have the decision changed. On the other hand, the behavior could be occurring to attract attention; for example, the foot banger, the clucker, or the object banger who enjoys the notoriety he receives when the trainer attends to these behaviors by saying, "John, stop clucking," or "John, keep your feet skill." The pouter may be one who enjoys the attention which the trainers bestow on him when they say, "What's the matter, Sue? Don't be so sad. Come on, let's do something to make you happy."

It may be extremely difficult and futile to analyze why the behavior is occurring. Suffice it to say that it is happening and is inappropriate. The remedy for extinguishing or eliminating this type of behavior is to ignore it, and therefore not provide the consequences (reinforcers) that have been maintaining it in the past. Conversely, however, it is important that the trainers attend to the trainee when he is engaging in an activity of an appropriate nature and to reinforce that kind of behavior.

In utilizing this techique trainers must be very watchful to insure that as soon as the trainee stops his self-indulgent behavior which they have been ignoring, he is reinforced for his appropriate behavior. Thus, when John, who has been lying on the ground, stamping his feet and screaming, finally stops and returns to an appropriate

activity, the trainer should go to him and comment upon how nice and quiet he is being. When a trainee engages in appropriate behavior after pouting, such appropriate comments as "I like the way you are talking now" and "I like the smile on your face" indicates to him this non-pouting behavior is appreciated.

2. Noncompliant Behaviors - The second major type of inappropriate behavior is the "I don't wanna" behavior or failure to comply. Many behaviors fall into this category. There is the person who, upon being told to do something, says no and refuses to do it. A second type ignores the command and goes on doing what he is doing, sometimes appearing to forget. A third does what he is asked, but does the task improperly or sloppily when he has previously demonstrated proficiency. Another type is the trainee who dawdles; the task is completed but much too slowly. Thus, refusal to do a task, forgetting to do it, doing it improperly or too slowly fall into the "I don't wanna" or noncompliance category.

Faced with these various types of "I don't wanna" or noncompliant behaviors, what does the trainer do? The most effective method is to make a reinforcing event contingent upon the performance of the required behavior. For instance, "You will have to clean the table before you can take a coffee break and spend time with your friends." Therefore, the task must be accomplished before a reinforcing event can happen. The trainee is encouraged to make those things in the environment that the trainer naturally likes or enjoys contingent upon accomplishment of the designated task.

For the trainee who dawdles, a time limit should be placed on the task. A kitchen timer is set and the trainee is told "You have 15 minutes to finish sweeping the floor. When the timer goes off, I will check with you. If you have finished by then, we'll have a coke together during break. If the timer goes off before the trainee is finished, there is no coke and no special time with the trainer.

Essentially, what is recommended is that highly reinforcing activities, that is, activities which the trainee enjoys, should be scheduled after less enjoyable activities. Scheduling may need to be refined to the point where the majority of available reinforcing activities for some trainees are contingent upon their performing required tasks or even routine tasks. Obviously, the trainee must be capable of understanding what the contingency is and be aware that he is making the choice to forego an activity rather than do the required task.

There is an important consideration relative to using this method. A trainer must be consistent in carrying out the stated contingencies. For instance, a trainee is told that he will not participate in break time (a highly reinforcing activity) until he has

satisfactorily completed a task; in addition, the task must be completed in 30 minutes. If the trainee succeeds in finishing the task ten minutes after the alotted time, the trainer cannot weaken and say "Well, that's a pretty good job, you can join the others at break time." The trainee did not meet the stated contingencies and therefore, should not be permitted to have the privilege. This procedure may seem to be rather inflexible and demanding. Yet, for the trainee it will set a clear delineation of what is allowed and what is not allowed. He will clearly understand what the rules are and either choose to abide by them or to violate them. If he violates them, he understands that there are certain privileges which he cannot have; he will realize that it is his choice and that the trainer has nothing to do with granting that privilege. It is something which the trainee must earn or fail to earn. If the trainer makes an exception, she is then in the position of being the privilege granter and not relying on the natural consequences of the environment to provide reinforcements or consequences to the trainee.

It is understood that the situation in each environment is somewhat different. It is not possible to cover a variety of situations in a limited number of pages. However, it is suggested that as a "rule of thumb," making a reinforcing event contingent upon the behavior is the preferred course of action when clients exhibit "I don't wanna" behaviors.

3. **Aggressive Behaviors** - The third type of behavior is termed "I got 'cha!" or aggressive behaviors. Aggressive in this case is again a global term referring to aggression against other people in any of a number of ways: hitting, biting, scratching, pulling hair; aggression against other people's property such as breaking windows or stealing; and finally aggression against a behavior code which society considers essential, such as swearing, lying and cheating. In other words, aggression includes any verbal or physically hostile act toward another person or property.

Aggressive behaviors can be categorized as severe or mild. Mild aggression would include gentle pushing or verbal aggression such as swearing. The student/trainee would be socially reinforced when he is interacting with others appropriately, i.e., not pushing or swearing during those times when this behavior generally occurs. When a mild aggressive behavior occurs, the rule of thumb is for the trainer to ignore it and to teach other workers also to ignore. The trainer should reinforce the other workers for successfully ignoring.

Aggressive behaviors which cannot be ignored are those where a trainee hits and hurts another, destroys property or steals. When dealing with stealing or property destruction, the trainer must insure that the natural consequences for these behaviors

are enforced, i.e., stolen property is returned. Payment or work is required as restitution for destroyed property.

If the victim of physical aggression is able to deal with the situation appropriately, such as, hitting back, the problem may be resolved by simply allowing this consequence to occur. However, when the victim is unable to cope with the situation, he will cry, scream or run away which is reinforcing to the aggressor. The aggressor may also quickly discover that this is an effective method for getting what he wants. In these situations the trainer must intervene. If physical aggression is continuing, it must be stopped. If it is not possible to remove the aggressor from the situation, remove the victim. The first time this behavior occurs, the aggressor should be verbally reprimanded and the consequences for any future incidents explained. These consequences could include loss of privileges, activities and/or restrictions. If the behavior occurs again, a written behavior management program should be implemented immediately. Two incidents of strong, physical aggression in a short period of time are sufficient to warrant formal treatment.

4. **Self-Stimulatory Behaviors** - The last type of inappropriate behavior is self-stimulatory or self-destructive behavior. Self-stimulation behaviors occur in a variety of forms, most of which are socially inappropriate and which interfere with the learning environment, such as flapping hands, ringing hands, filtering light, and rocking. These behaviors are often what cause "off task" behavior with sensory impaired trainees.

Examples of self-destructive behaviors include head banging, hair pulling, biting lips or other parts of the body and scratching. These behaviors often occur at a high rate of frequency or over a prolonged period of time. These are generally not "attention getting" behaviors. By definition they are "self-stimulating," but are either harmful to the person, or are generally not accepted in normal situations. Therefore, ignoring their occurrence is not an effective treatment. When these behaviors occur, they need to be interrupted either verbally or physically. The trainee should be immediately reinforced when the behavior ceases. It is important that the trainee is also receiving instruction in an activity or more acceptable behavior to replace the self-stimulation. For example, a trainee engaging in light filtering with his fingers could be redirected to work activities which involve his hands, such as sorting and assembling items, etc.

It may be necessary to shape the behavior to become more acceptable. A trainee engaging in hitting the side of his head with his fist was shaped to thrusting his arm away from his body. Thus, he was no longer inflicting damage to himself and the arm thrusting behavior eventually ceased without treatment. If the behavior is occurring at

a high frequency throughout the day, it may not be possible (or practical) to attempt to completely eliminate the behavior. Select one environment or time segment when the behavior can be treated. The treatment would include verbally or physically interrupting the behavior, redirecting the trainee to meaningful activity, and reinforcing the engagement in that activity. Trainers should continue to reinforce the trainee in other environments when he is not demonstrating the self-stimulation or self-destructive behaviors. If a self-stimulatory or self-destructive behavior continues and does not respond to the suggested treatment, a formal treatment program is necessary.

It should be re-emphasized that what has been provided here are "rules of thumb" for dealing with categories of inappropriate behaviors. Hopefully, these rules of thumb will be helpful in making immediate and consistent appropriate responses to inappropriate behaviors. The rules of thumb were developed as a result of years of experience in helping parents, teachers and other professionals deal with inappropriate behaviors. Data gathered from the Teaching Research Parent Training Clinic indicate that in the vast majority of cases, following the rules of thumb will result in the extinction or reduction of inappropriate behavior.

To summarize, four categories of inappropriate behaviors have been discussed: self-indulgent ("I'm doing my own thing"), non-compliant ("I don't wanna"), aggressive ("I got 'cha") and self stimulation/destructive. As a rule of thumb, self indulgent behavior should be ignored; failure to comply behavior should be scheduled to preceed a reinforcing event; aggressive behavior should be consequated using natural consequences, restitution, loss of privileges, or time away from group; and self stimulation/destructive behaviors need to be interrupted and re-directed. A chart summarizing these behavoirs and recommended treatments appears in Figure 9.

Formal Behavior Programming Techniques

Assessment of social skills occurs over time and can only be accomplished through continued observations of the student. If there is suspicion that a student lacks a certain social skill, (as assessed on the Checklist or required for the job) observations should be systematic and training to build that social skill or to remediate an inappropriate behavior should commence. When a number of social skills need to be taught, it is necessary to prioritize the ones that are most important.

The purpose of this section is to share some suggestions for the design of behavior programs and specific treatment strategies that can be used in the remediation of inappropriate behaviors and the skill acquisition of appropriate behaviors. These

RULES OF THUMB

CATEGORY OF BEHAVIOR	EXAMPLES	TREATMENT	
		When Behavior Occurs	When Not Occurring
NON-COMPLIANCE	Slow to comply (slow to task) Refusing to follow a directive Poor or incomplete job done on tasks Breaking a known rule	ASSIST TO COMPLY OR ARRANGE NATURAL CONSEQUENCE	R+ for compliance
		When Behavior Occurs	When Not Occurring
SELF-INDULGENT	Tantrums Screaming Whining Pouting Negative Statements Complaints Irrelevant Comments & Questions Crying	IGNORE	Reinforcement for appropriate behavior
		When Behavior Occurs	When Not Occurring
AGGRESSION	Spitting Biting Pinching Punching Kicking Stealing Lying Breaking or Throwing Objects	TIME AWAY FROM GROUP	R+ for pro-social behavior
		When behavior Occurs	When Not Occurring
SELF-STIMULATION / SELF-AGGRESSION	Rocking Light Filtering Putting Objects in Mouth Grinding Teeth Hitting Self Biting Self Head Banging	INTERRUPT BEHAVIOR	R+ for appropriate behavior

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strategies have been successfully used by teachers in classroom settings, parents in home settings, group home managers, institutional staff and vocational trainers. Inappropriate behaviors are being defined as behaviors that are not acceptable in the individual's environment and/or ones that interfere with learning. Social skills are defined as those behaviors which are necessary for success in a work environment or which make success more probable. The following sections outline the process of conducting formal social or behavioral programs and analyzing the data collected from those programs. Formal behavior programs for inappropriate behaviors are necessary when "Rules of Thumb" fail to bring the behavior under control or within acceptable limits.

The philosophy herein follows closely the philosophy of the Teaching Research Data Based Classroom Model (Staff of Teaching Research Infant and Child Center, 1984). It is based on not only well researched behavioral principles of learning but also on extensive experiences in working with parents, classroom teachers, group home staff, and institutional staff. The format for the design of behavioral programs contains the elements necessary to communicate behavior program strategies to other staff members. This is not a fail proof technique to deal with every problem student in a classroom, but rather describes the skills to design a behavior program and collect data which allow immediate analysis of the success of the program and what modifications to make if unsuccessful.

A. Principles behind behavior programming:

1. Start programming simply and gradually increase complexity. The more complex a program, the more complex it will be to fade the consequences in the program and return to social or natural consequences. Begin with a program based on natural consequences of the environment. Tangible consequences can always be added if consistent social responses are found ineffective with a particular student or worker. Also, a complex program is more difficult to implement by professional staff, parents, and volunteers.

2. There exists a necessity to obtain consistency in the individual's environment. In effect, formal behavior intervention is a program for the adults who are treating the inappropriate behaviors. Typically, when a trainer or parent implements a new program, the trainee will test the program, since it usually represents a new response by the adult. This testing results in an increase of the trainee's undesirable behavior and at this point, most parents or trainers have a tendency to change the program or revert to their previous reaction to the behavior, thereby being inconsistent in their responses.

B. When to set up a behavior program and which behavior to choose:

1. It may be necessary to start behavior programming before skill acquisition programming if the student's inappropriate behaviors interfere with

instruction. Behavior programming however is generally started concurrently with other programs.

2. Obtain parental permission before beginning a treatment. The trainer should inform both the parent and direct supervisor of all treatment phases. The supervisor should be asked to review the treatment and determine if it is in consonance with the district or agency's policies.

3. When a number of inappropriate behaviors are apparent, prioritize which ones are most important. Look for a behavior which, when remediated, will improve behavior across several environments. The most common example of this would be improving compliance. In fact, as a general rule, when a severe behavior problem other than noncompliance has been identified, one can be quite confident that noncompliance is also a major problem.

C. All formal behavior programs have seven steps:

1. Pinpointing and accurately defining the behavior.

2. Baselining the behavior.

3. Establishing a terminal objective.

4. Designing and implementing the behavior program.

5. Analyzing the data.

6. Modifying the program as necessary.

7. Insuring that the behavior change maintains over time.

Each of these seven steps is discussed below.

Pinpointing and defining the behavior - Step #1. There is a necessity for defining precisely the behavior identified for possible treatment. In doing so, the first consideration is to identify the envrionment(s) where the behavior occurs e.g., the bus, on the way to the worksite, at the worksite, etc. The second step is to categorize the behavior into one of the four categories previously described: self indulgent, non-compliant, aggressive or self stimulatory. It is extremely important to accurately define the behavior so that all behavior changes can be noted. Define only the observable behavior and not an amorphous behavior, i.e., "seems to be stubborn." "Refuses to make bed" would be a more precise definition.

If possible, note all dimensions of the behavior, so that not only the frequency and the length of the behavior in the case of a self-indulgent behavior but also the intensity of the behavior can be ascertained. When observing a tantrum, it is best to record kicking, screaming, lying on the ground so that if any dimension of the behavior changes, it will be noted. For example, if a trainee has been kicking and lying on the

floor while screaming, and after some some treatment he is not lying on the floor anymore, this is a change in the dimension of the behavior. It can be concluded that the treatment procedures are effective in that they are reducing the intensity of the behavior. The trainer, given this change of definition, must proceed on the assumption that the behavior is improving.

The importance of noting the intensity of the behavior is evident in each of the four categories of behavior. The dimensions of aggressions should also be carefully noted. The student who initially pushed to get by others but who now rudely shouts, "Get the hell out of my way" is not as aggressive as he once was. The intensity of the behavior has changed. His aggressive behavior is improving.

The definition of noncompliance can be quite complex. First, noncompliance can be categorized dichotomously. There is routine noncompliance and spontaneous noncompliance. Routine noncompliance is noncompliance to rules, routines or expected behavior. Brushing teeth, changing underwear, responding when greeted, punching a time clock are all examples of behaviors which are expected to be performed routinely. Generally, routine compliance is expected to be performed in response to an environmental cue. However, trainers, teachers or parents are frequently willing to provide cues for routine behaviors. Whether or not a cue for a routine behavior is allowed is part of the definition of routine noncompliance.

Spontaneous noncompliance is noncompliance which occurs when a trainee is asked to do something that can occur at variable times in the environment or which is not part of a personal routine. A very natural growth phenomenon is that the older a person becomes, the more routine compliance is expected. Very young children operate almost exclusively on spontaneous requests.

What constitutes a noncompliance? A noncompliance has occurred if a) more than one cue is necessary before the trainee complies, or b) the trainee dawdles in his response, or c) does not complete the task requested, or d) does the task poorly, or e) whines, cries, tantrums, or says something like, "Do I have to?"

Even noncompliances have different intensities. There is quite a difference between the person, who, asked to do something, says "Hell no. I'm not doing it" and the person who does it, but not quite completely. Therefore intensity of noncompliance must also be precisely identified.

Self-abusive and self-stimulatory behaviors also vary in intensity. The person who rocks can do so slowly or quite rapidly; in this case the speed of rocking is the measure of intensity. Similar variations in intensity can be found in the frequently

observed hand flapping or light filtering of sensory impaired people. The intensity of a self-abusive behavior may be very important. For instance, how hard a person hits himself in the head may have implications for how the behavior may be treated or how treatment is progressing.

Another important identification factor for self-abusive and self-stimulatory behavior is the location where the behavior occurs. This location is important because over the years treatment data have been accumulated which indicate that self-abusive and self-stimulatory behaviors, when treated, may only cease in the treated environment and that the treatment does not generalize across environments. Only after treatment has been successful in a number of environments does generalization begin to occur.

Thus, definition of behavior is very important. Not only does it describe the behavior to be treated, but also the intensity dimensions of the behavior. As the behavior undergoes treatment, its frequency or length of occurrence may not decrease but the intensity may. This type of decrease is an appropriate measure of improvement.

Baselining behavior - Step #2. After the behavior has been identified and defined, the next step is to take baseline data. During baseline no treatment conditions are in effect. This does not mean that nothing occurs during the baseline period. It means that the trainer continues doing exactly what he has been doing in dealing with the behavior: Do nothing different.

The advantages of taking a baseline count of the occurrence of the behavior are:

1. It provides data which can be compared with subsequent treatment data to measure change in the behavior and the effect of the treatment.

2. It enables the program designer to set a realistic program objective for the behavior, i.e., if the baseline shows a behavior is occurring 25 times a day, a program objective of "eliminating the behavior" may be unrealistic. The best we may hope for in high frequency behaviors is perhaps to reduce them to acceptable levels.

Some very extreme and potentially dangerous behaviors do not require a baseline because immediate intervention is necessary. This may be a very low frequency behavior, such as setting a fire. The teacher or parent report of such an incident can constitute a baseline for this type of behavior. Ideally baseline data are taken for a period of one week, but a minimum would be three baseline observations. Figure 10 shows the data form on which the behavior is tallied. An example is provided for baseline data on four different behaviors: tantrumming, noncompliance, aggression, and chore compliance. The data taken for trantrumming measures two dimensions of that behavior: the number of tantrums (rate) and the number of minutes (length) of each trantrum. From these data

BEHAVIOR TREATMENT DATA FORM

Name Susie

Date Recording Initiated: 4/4 **Date Recording Terminated:** / /

BEHAVIORS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY	TOTAL	SUMMARY
1. Tantrumming - Number	I	II		III	I	I	I	9 1.28/day	
Length	11 min.	4 14		21 11 2	7	3	10	83 $\bar{X}$ = 9.22	
2. Complies	III	II	~~IIII~~ I	II	IIII	II	III	22	
Does not comply	~~IIII~~ III	~~IIII~~ ~~IIII~~ III	IIII	~~IIII~~ II	~~IIII~~ I	II	~~IIII~~ I	46 % = 32%	
3. Hits Peers	I	I		II	I			5 $\bar{X}$ = .71	
4. Makes Bed	I	I	(I)	◯	◯	I	X	$\bar{X}$ = 3/6 or 50%	
5. Does Dishes	(I)	(I)	(I)	I	I	X	X	$\bar{X}$ = 2/5 or 40%	

Figure 10. Baseline Data for Susie for Tantrumming, Aggression, Non-Compliance and Appropriate Responses to Greetings

a rate per day is established. In this example, tantrums occurred nine times during the seven day week for a rate of 1.28 per day. The average length of a tantrum is established by dividing the total time (in minutes) by the number of tantrums. In this case, the average length of a tantrum was 9.22 minutes.

To compute percentages of compliances, the number of compliance tallies is divided by the total number of opportunities to comply (noncompliance plus compliance). In the example, the total number of compliances was 22 and the total number of compliance opportunities is 68 (22 compliances plus 46 noncompliances). The percentage of compliance is 22/68 or 32%.

Aggressions are computed by establishing a rate per day and then averaging that rate - the same as for tantrums. In the example, the average rate per day is .71.

The data for chore compliance, i.e., for making bed and for washing dishes, are also shown on Figure 10. For chore compliance, the following recording system is used:

1 = chore completed without hassle and on time

(1) = chore completed without hassle but had to be reminded or cued

0 = chore not completed, or chore completed with hassle, or chore completed, but not on time or appropriately

X = Chore not required

In the example shown, Susie made her bed without being told 50% of the time and did the dishes without being told 40% of the time. However, if one is tracking more precisely how much improvement is occurring, one might also record the percentage of time that the behavior occurred with a cue. The complete data for making bed in Figure 9 can be summarized as follows: Susie made her bed 4 out of 6 times or 67% but only without cue 50% of the time.

If the behavior improves during the baseline period, baseline conditions are continued and treatment interventions are not initiated. Very frequently behavior improves when a student realizes that people are observing and counting his behavior. Examples of methods to measure a behavior and guidelines for choosing a method follow.

Ways to measure a behavior:

In determining a data collection method, the staff available to collect information may dictate how much data can be gathered. It is better to have a small but accurate sample of data than a longer but incomplete sample. Several ways to measure a behavior follow:

1. Frequency: A measurement of how often a behavior occurs.

   FORMULA: $\frac{\text{Total \# of occurrences}}{\text{Total time behavior was observed}}$ = Rate of occurrence per min./hour/or day

   EXAMPLE: $\frac{\text{10 Tantrums}}{\text{5 days measured}}$ = 2 tantrums per day

2. Duration: A measurement of the length of time a behavior occurs.

   FORMULA: $\frac{\text{Total length of all occurrences}}{\text{Total \# of occurrences}}$ = Average length of each occurrence

   EXAMPLE: $\frac{\text{60 minutes}}{\text{2 tantrums}}$ - An average of 30 minutes per tantrum

3. Percent: A measurement of how often behavior occurs out of how often the behavior could possibly have occurred.

   FORMULA: $\frac{\text{\# of compliances}}{\text{Total \# of commands delivered}}$ = Percent of compliance

   EXAMPLE: $\frac{\text{20 compliances}}{\text{40 commands delivered}}$ = 50% compliance

   FORMULA: $\frac{\text{\# of times chores done independently}}{\text{Total times chores expected to be done}}$ = Percent of compliance

   EXAMPLE: $\frac{\text{6 independent chores}}{\text{10 expected chores}}$ = 60% compliance

4. Interval recording during, or at the end of, specified intervals of time and conducting the observation for a specific time period.

   FORMULA: $\frac{\text{\# of times behavior occurred}}{\text{\# of intervals observed in behavior}}$ = Percent of intervals student engaged in behavior

   EXAMPLE: $\frac{\text{10 occurrences of behavior}}{\text{20 intervals observed}}$ = 50% time observed student engaging in behavior

Guidelines for choosing a method of data collection:

1. For behaviors that occur very frequently, it will be easier for the observer to be accurate if he observes for a short period of time. Measure the frequency and/or duration, but for only a specified time. This would be a sample of the behavior.

2. Another form of sampling behavior is that which is achieved with interval recording. That is, for a specified observation, simply record whether or not the behavior is occurring at intervals of time; for example, every ten seconds.

3. For lower frequency or readily observable behaviors, use a frequency and/or a duration count. The length of the time observed depends on staff time available.

4. The most accurate method, of course, is to measure the behavior continuously, and across all possible dimensions.

We would like to recommend measurement methods for each category of behavoir that has been described above.

1. Self indulgent behaviors - measure the frequency and duration of the behavior. If one perceives that the intensity of self-indulgent behavor may change, one may want to develop a scale describing the various degrees of behavior. For instance, the following scale was developed for parents of a child with severe handicaps being seen by the Teaching Research Parent Training Clinic:

   5. Yelling, throwing things, banging against the walls and furniture with hands and feet.
   4. Yelling, banging against the walls and furniture with hands and feet.
   3. Yelling, slapping the wall or door.
   2. Yelling.
   1. Two or three words of bad language.

   A scale such as this allows one at the end of a week to compute the percentage of tantrums in each category. The scale shown has five categories. A scale can have as many categories as needed to describe the range of behaviors. Similar scales can be develped to show intensities of aggression, self-stimulatory behavior and compliance.

2. Non-compliant behaviors - measure the number of compliances and the number of non-compliances for sponaneous noncompliance. Measure the number of compliances without a cue, the number with a cue, the number of noncompoliances and the number if "not required" for chore compliance.

3. Aggressive behaviors - measure frequency and/or duration of the behavior. Scaling of intensity may also be helpful. See self-indulgent behaviors.

4. Self-stimulatory behavior. These are more difficult behaviors because they generally occur at a high frequency. A sample of the frequency and/or duration may be measured for a short time or observed at intervals over a slightly longer time.

   a. If the self-stimulatory behavior occurs across a number of enviornments, baseline each environment in which the behavior occurs. Usually, the treatment does not initially generalize across environments and it may be necessary to design treatments for each environment in which the behavior occurs.

   b. After you have baselined a number of environments, prioritize the environments and begin the treatment program in one environment at a time. It is usually easier to start with the environment in which the behaviors are occurring at the lowest frequency as success will be more observable by the individual, family and programmer.

Once the decision has been made to take baseline on a behavior, the first step is to fill in the Collection Procedure under Baseline Data on the Behavior Program Cover Sheet. See Figure 11 for an example. This entry should include the measurement method (e.g., frequency and duration), the amount of time observed (i.e., from 12:00 a.m. - 2:00 p.m.) and location of observation at the worksite). Conduct the specified baseline and record responses on the raw data sheet.

Summarizing the Baseline on the Behavior Program Cover Sheet (Figure 11)

1. Summarize the baseline data after the completion of baseline period by referring to the methods of computation previously described. (Baseline data were gathered on the form shown in Figure 10.)

2. Record the dates of the observation.

3. Record the summary of the baseline data.

4. Record any comments, i.e., for aggression, who was being hit.

5. Record response to behavior during baseline period, i.e., ignored, used time out.

6. The baseline average should be computed before designing a terminal objective or treatment. Baseline data will provide information to help determine treatment information, and specifically, schedules of reinforcement.

Establishing terminal objectives - Step #3. After the baseline data have been computed, the terminal objective is established for each program to be initiated. To establish a terminal objective refer to the summary of the baseline data on the Behavior Program Cover Sheet (Figure 11; two boxes at top left). A realistic terminal objective is likely to be established when the frequency, duration, or percentage of occurrence of the behavior (before treatment) is known.

If trainees are not their own guardian, consult the parents. It should be mandatory that parents are aware of a behavior program being implemented and that they concur with the treatment. Parents are a valuable resource in the development of the behavioral program. They can help to identify reinforcers, and to establish consistency by conducting the program at home if the behavior occurs there also. Often, with older students, parents can make available a number of highly reinforcing activities not possible in the school or work situation, i.e., later bed time, free time, special foods, or activities with family members. They can become part of the program by making these reinforcers available contingent upon the behaviors specifed in school.

Consult the agency's direct supervisor. He or she can determine if the proposed

BEHAVIOR PROGRAM COVER SHEET

Name Susie **Date Initiated** 11/2/80 **Date Terminated** _____

Program to be Conducted: Home ☐ School ☒ Both ☐

BASELINE DATA

Collection Procedure: To be sampled for two hours between 12:00 and 2:00 at the worksite. Count compliances and noncompliances to spontaneous commands.

Date	Data	Comments and Treatment
4/4-4/8	average = 32% for week	Complied better for John than for Mary. Commands given more than once. Trainer's voice escalated.

PROGRAM OBJECTIVE: To increase compliance at the work site to an average of 80% for three consecutive weeks.

SYNOPSIS OF PROGRAM

Date	Weekly Total	Treatment #	Date	Weekly Total	Treatment #
4/15	39%	1			
4/22	38%	1			
4/29	52%	2			
5/6	71%	2			
5/13	74%	2			

POST TREATMENT FOLLOW-UP

Date	Weekly Total	Treatment #	Date	Weekly Total	Treatment #

If Program Terminated, State Reason: _____

Figure 11. Program Data Sheet for Compliance Program for Susie

program is in compliance with district or work site policies.

Record the program objective on Behavior Program Cover Sheet under Baseline Data (see Figure 11). Be sure that the following criteria are met:

1. State the program objective in positive terms if possible, e.g., increase compliance rather than decrease non-compliance.

2. State the environment where the behavior is to be treated, e.g., at the work site.

3. State the criterion for acceptable behavior, e.g., 80% compliance.

4. State a duration for which the criterion of acceptable behavior must be maintained, i.e., 80% compliance for three consecutive weeks. It should be understood that this criterion means that the behavior maintains over the period of time with only reinforcers that occur naturally in the environment. Thus, all artificial reinforcers, token systems, etc. must be faded before the program is considered to have met criterion.

The objective and the baseline data summary are also recorded on the form shown in Figure 11. The program objective chosen for command/compliance was to increase it to 80% for two consecutive weeks (Figure 11).

Figure 12 is an illustration of a program cover sheet for a program to reduce tantrums. Before establishing the terminal objective, the parents were consulted about the objective, and the treatment program.

Designing a treatment program - Step #4. The Behavior Program Treatment Form provides not only the record of treatments used but also provides a vehicle for communicating the treatment program to other trainers in the environment. State on the Behavior Program Treatment Form (Figures 13 and 14) exactly what the trainer's response is to be when the behavior to be increased occurs, and when the behavior to be decreased occurs. Include concise enough information so that anyone implementing the program will react in the same fashion. In one of the examples given (Figure 13) we see that Susie is to be reinforced socially for each compliance. Scheduling of the next reinforcing event is made contingent upon compliance.

Guidelines for all treatment programs:

1. Remember Principal #1 - begin with a simple program. This generally means starting with social consequences as reinforcers and punishers.

   a. It is easier for staff or parents to conduct simpler programs.

   b. Parents/surrogate parents are more accepting of this type of program initially.

BEHAVIOR PROGRAM COVER SHEET

Name Susie **Date Initiated** 11/2/80 **Date Terminated** _____

Program to be Conducted: Home ☐ School ☐ Both ☐

BASELINE DATA

Collection Procedure: To be recorded all day long at the worksite.

Date	Data	Comments and Treatment
10/22	1.28/day 9.22 min.	

PROGRAM OBJECTIVE: To reduce tantrums to an average of 1.0/wk. and 1 minute for three consecutive weeks.

SYNOPSES OF PROGRAM

Date	Weekly Total	Treatment #	Date	Weekly Total	Treatment #

POST TREATMENT FOLLOW-UP

Date	Weekly Total	Treatment #	Date	Weekly Total	Treatment #

If Program Terminated, State Reason: _____

Figure 12. Program Data Sheet for Tantrumming Program for Susie

BEHAVIOR PROGRAM TREATMENT FORM

Name Susie

BEHAVIOR TO INCREASE Compliance **BEHAVIOR TO DECREASE** Non-compliance

Treatment Number	Date	When BEHAVIOR TO INCREASE occurs, do this:	When BEHAVIOR TO DECREASE occurs, do this:
1		When Susie complies, socially reinforce her.	When Susie does not comply, give her feedback indicating she did not comply and do not allow work to continue until she does. When she complies, socially reinforce her.
2		Socially reinforce and give Susie a point on her chart.	Same as above.

Figure 13. Treatment Program for Compliance for Susie

BEHAVIOR PROGRAM TREATMENT FORM

Name Susie

BEHAVIOR TO INCREASE Periods of behavior without tantrums.

BEHAVIOR TO DECREASE Tantrumming

Treatment Number	Date	When BEHAVIOR TO INCREASE occurs, do this:	When BEHAVIOR TO DECREASE occurs, do this:
1		During periods of non-tantrumming, socially reinforce Susie for good behavior about once every year.	When tantrum occurs, ignore.

Figure 14. Treatment Program for Tantrumming for Susie

2. Increase the strength of reinforcers for appropriate behaviors before increasing the strength of punishers for inappropriate behavior.

3. The majority of program design time will be spent in identifying effective or powerful reinforcers for that individual.

4. Use specific descriptions on treatment program for the use of reinforcers and punishers.

When treating inappropriate behaviors, it is necessary to focus on the strengthening of alternate forms of desirable behavior rather than simply weakening the undesirable behavior. These are called incompatible behaviors. It is important to provide the individual with appropriate skills which will receive praise. For example, if a trainee grunts for greeting people, the incompatible behavior would be either a word or a gesture, to indicate "hi!".

When setting up a reinforcement schedule, it is necessary to deliver the reinforcer for appropriate behavior more often than the average time between occurrences of the inappropriate behavior. To determine the average time between occurrences for self-stimulatory, self-indulgent and aggressive behavior, one would divide the total amount of time observed by the number of occurrences. Example: If an individual were hitting 9 times in 6 hours, the hours would be converted to minutes (6 hours x 60 minutes - 360 minutes) and divided by 9 = 1 hit approximately every 40 minutes. Reinforcement would then be delivered once every 30 minutes that the individual was not aggressive.

Reinforcement needs to occur more often than the average time between occurrences. We need to "catch the individual being good". The time that the student must not engage in the behavior before being reinforced can then be gradually increased.

Analyzing the data - Step #5. Data are gathered daily on the form shown in Figure 10. These data are analyzed weekly and are compared with the data of the previous week or the baseline period. Weekly data summaries are recorded on the Behavior Program Cover Sheet under "Synopsis of Program." See Figure 11. Record dates, weekly total and number of treatment implemented.

As a general guideline, if a program shows an improvement from the previous week, leave the treatment the same. If it shows a decline in the behavior or a plateauing of the behavior below the program objective, change one variable in the program.

Frequently (almost always!) students and trainees will test the program initially and their behavior will worsen in doing so. Expect this when any new behavior program is started and maintain the program during this period.

Figure 11 shows the data summary for the compliance program for Susie. The data computed on Figure 11 shows a 32% compliance rate at baseline. During the first week of the program, the compliance rate increased to 39%. Since compliance increased, the initial treatment program (#1) is maintained.

During the second week of the program, 4/22, the compliance rate was 38%. Since this constitutes a slight decrease from the previous week, the trainer must change the treatment program. That change is entered on the Behavior Program Treatment sheet (Figure 13) and is labeled Program #2. Under the heading of "when behavior occurs, do this," the teacher enters "socially reinforce and give Susie a point on her chart." Points will be traded for free time at the rate of one point for two minutes of free time. For noncompliance, the consequence has not changed. After one week of treatment Program #2, the data show an increase in compliance to 52%. Compliance increased to 71% and 74% during the following two weeks while implementing Program #2 (Figure 11). Since the trainee is continually progressing toward the terminal objective, the program is not changed. If the behavior does not improve or regresses, the program is modified.

There are exceptions to the guideline that the program should be changed if there is no improvement over the previous week's behavior. For instance, the summarized data for the week may not show improvement, but when the data for each day are examined, the behavior improves toward the end of the week. In this case, the treatment program can be maintained. This trend can be observed frequently when a new program has been established. The trainee, in testing the new contingencies, shows an immediate increase in the inappropriate behavior. As the trainee realizes that the program is going to be administered in a consistent fashion, a decrease in that behavior generally occurs. The behavior most often cited in the literature for this phenomenon is tantrumming. When tantrums are ignored, they usually increase in length and frequency before they decrease. However, the experience of the Teaching Research Parent Training Clinic indicates that this phenomenon also occurs in other behaviors such as noncompliance and aggression. Therefore, the data from each day of the week should be examined to determine whether or not an improvement occurs toward the end of the week.

There are other exceptions to the guideline for changing the program if no improvement is noted. Occasionally there will be unusual circumstances in a classroom. For instance, the teacher is sick and a substitute teacher is employed. During this period the program may not be conducted as consistently as it should be and this

inconsistency is reflected in the student's behavior. Another example is the student who has been absent for a period of time. His behavior may be quite poor upon his return. He should be given time to readjust to the classroom or work environment before changing the program. One week should be sufficient for this adjustment. Thus a program change would not be administered until after the first week. For those behaviors where more than one dimension, i.e., frequency, duration and intensity, are being recorded, an improvement may occur in only one of the three dimensions at a time. In this case, as long as the behavior improves in one dimension, the program should not be changed.

Another exception would be when the overall data for the week may show no improvement. However, analysis of the individual days indicates that every day but one shows an increase in appropriate behavior and a decrease in inappropriate behavior over the average data of the previous week. The weekly average therefore, is greatly changed by one very poor day. The decision we would most often make in this type of situation would be not to change the program since the student is having more good days than bad days.

Modifying the program as necessary - Step #6. This entire process of analyzing data is based on comparing the current week's data with that of the previous week. A decision must be made: to change or not change the program. If the data indicate that the behavior has improved toward the terminal objective, the treatment is working and the program is not changed. If the data do not show improvement and the exceptions previously discussed do not apply, then the program must be changed.

When the program is to be changed, the general rule is to increase the power of the reinforcer, leaving the punisher constant until all reinforcers or schedules of reinforcement have been completely exhausted. If the behavior still does not improve, punishment programs are increased. Generally, reinforcers will be sufficient to modify the behavior without ever having to impose a punisher more severe than a verbal correction or reprimand. The student should be responding to the natural consequence of the environment before the treatment program is terminated and placed on maintenance. Refer to treatment schematic for progression of reinforcers and punishers.

Maintaining behavior change - Step #7. After the objective for a behavior program is achieved and exaggerated reinforcers or punishers have been faded, the program is placed on a maintenance program. Fading reinforcers is accomplished by delivering them less frequently and on an intermittent schedule. The intensity of the reinforcers and punishers delivered will also be faded. During the maintenance program, the student is observed at one month, three month and six month intervals. During the

maintenance observation, baseline data are recorded each day for one week. If the data indicate that the behavior has maintained at the level specified by the terminal objective, no further action is necessary. If the data indicate that the behavior has not maintained to a degree unacceptable to either the parents, the teacher or supervisor, the behavior program should be reinitiated.

The procedures described here are those that are utilized in the Teaching Research Infant and Child Center classrooms. Other data systems, of course, could be used. The important thing to remember is that a system for gathering data, analyzing it and structuring the program is necessary.

Summary

This chapter has described the "Rules of Thumb" for managing inappropriate behavior and the seven principles used in developing formalized treatment programs: 1) pinpointing and defining the behavior, 2) baselining the behavior, 3) establishing a terminal objective, 4) designing and implementing the treatment program, 5) analyzing the data, 6) modifying the treatment as necessary, and 7) insuring that the behavior change maintains over time. Sample programs and data forms were provided to illustrate each step in programming.

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